IN THE CLAIMS:

Amend the claims of the application as set forth in the following:

Claims

1. (Currently Amended) A method for increasing the copper to superconductor ratio of a superconductor core wire comprising:

(a) forming a copper-based strip about the core wire which at least partially encloses the core wire in contact therewith by deforming the strip longitudinally into a U shape nested about the wire; and

(b) soldering the wire and strip assembly resulting from ~~of~~ step (a) to enable a strong mechanical, electrical and thermal bond therebetween by passing the said assembly through a molten solder bath.

2. (Cancelled)

3. (Currently Amended) A method in accordance with claim [[2]] 1, ~~wherein the soldering is effected by passing the structure from step (a) through a molten solder bath; and~~ further including a step of

(c) solidifying the bond between said strip and wire by cooling the assembly.

4. (Previously presented) A method in accordance with claim 3, wherein prior to step (c) said copper-based strip is further shaped about the core wire.

5. (Previously presented) A method in accordance with claim 4, wherein the core wire is encased by the copper-based strip for from 180° to 360° of its cross-sectional circumference.

6. (Currently Amended) A method in accordance with claim [[3]] 4 wherein ~~steps~~ step (b) and ~~(c)~~ said further shaping are at least partially conducted simultaneously.

7. (Currently Amended) A method in accordance with claim [[3]] 4, wherein said further shaping step is conducted subsequent to the assembly being passed through said molten solder but while the product is still at a temperature above the melting point of the solder.

8. (Previously presented) A method in accordance with claim 4, wherein the wire and copper strip are each fed from continuous rolls of wire and strip and passed together through a forming roll which carries out step (a).

9. (Canceled)

10. (Currently Amended) A method in accordance with claim [[9]] 22 wherein subsequent to said heating and prior to said solder solidifying, said copper-based strip is further shaped about the core wire.

11. (Previously presented) A method in accordance with claim 10, wherein in said further shaping about said core wire, the said wire is encased by the copper-based strip for from 180° to 360° of its cross-sectional circumference.

12. (Currently Amended) A method in accordance with claim [[2]] 1, wherein said copper-based strip is joined to one or more backing strips of other metals to increase the strength of the resulting laminate.

13. (Previously presented) A method for increasing the copper to superconductor ratio of a superconductor core wire and the mechanical strength thereof, comprising forming a copper-based strip about the core wire, to at least partially enclose the core wire in contact therewith and to form said strong mechanical assembly with increased copper to superconductor ratio.

14. (Previously presented) A method in accordance with claim 13, wherein the copper-based strip is longitudinally deformed into an encasing enclosure for said core wire, and said core wire is subsequently inserted along the longitudinal axis of the enclosure.

15. (Previously presented) A method in accordance with claim 14, wherein the encasing enclosure surrounds the core wire for from about 180° to 360° of the core wire cross-sectional circumference.

16. (New) A method for increasing the copper to superconductor ratio of a superconductor core wire comprising:

(a) forming a copper-based strip about the core wire which at least partially encloses the core wire in contact therewith by deforming the strip longitudinally into a U shape nested about the wire;

(b) soldering the wire and strip in the assembly of step (a) to enable a strong mechanical, electrical and thermal bond therebetween by passing the assembly through a molten solder bath;

(c) solidifying the bond between said strip and wire by cooling the assembly; and

(d) wherein prior to step (c) said copper-based strip is further shaped about the core wire, said further shaping step being conducted subsequent to the assembly being passed through said molten solder but while the product is still at a temperature above the melting point of the solder.

17. (New) A method for increasing the copper to superconductor ratio of a superconductor core wire comprising:

(a) forming a copper-based strip about the core wire which at least partially encloses the core wire in contact therewith by feeding each of the wire and copper strip from continuous rolls

of wire and strip, and feeding the said wire and strip together through a forming roll to deform the strip longitudinally into a U shape nested about the wire;

(b) soldering the wire and strip in the assembly of step (a) to enable a strong mechanical, electrical and thermal bond therebetween by passing the assembly through a molten solder bath;

(c) solidifying the bond between said strip and wire by cooling the assembly; and

(d) wherein prior to step (c) said copper-based strip is further shaped about the core wire.

18. (New) A method for increasing the copper to superconductor ratio of a superconductor core wire comprising:

(a) forming a copper-based strip about the core wire which at least partially encloses the core wire in contact therewith by deforming the strip longitudinally into a U shape nested about the wire; and

(b) soldering the wire and strip in the assembly of step (a) to enable a strong mechanical, electrical and thermal bond therebetween; and

(c) wherein solder is applied to said core wire prior to step (a), wherein the assembly subsequent to step (a) is heated to a temperature above the melting point of said solder, and the bond between said strip and core wire is effected by subsequently cooling the assembly below the melting point of the solder; solidifying the bond between said strip and wire by cooling the assembly.

19. (New) A method in accordance with claim 18 wherein subsequent to said heating and prior to said solder solidifying, said copper-based strip is further shaped about the core wire.

20. (New) A method in accordance with claim 19, wherein in said further shaping about said core wire, the said wire is encased by the copper-based strip for from 180° to 360° of its cross-sectional circumference.

21. (New) A method for increasing the copper to superconductor ratio of a superconductor core wire comprising:

(a) forming a copper-based strip about the core wire which at least partially encloses the core wire in contact therewith by deforming the strip longitudinally into a U shape nested about the wire;

(b) soldering the wire and strip in the assembly of step (a) to enable a strong mechanical, electrical and thermal bond therebetween by passing the assembly through a molten solder bath; and

wherein said copper-based strip is joined to one or more backing strips of other metals to increase the strength of the resulting laminate.

22. (New) A method for increasing the copper to superconductor ratio of a superconductor core wire comprising:

(a) forming a copper-based strip about the core wire which at least partially encloses the core wire in contact therewith by deforming the strip longitudinally into a U shape nested about the wire;

(b) soldering the wire and strip assembly resulting from step (a) to enable a strong mechanical, electrical and thermal bond therebetween; and

(c) solidifying the bond between said strip and wire by cooling the assembly;

wherein solder is applied to said core wire prior to step (a), wherein the assembly subsequent to step (a) is heated to a temperature above the melting point of said solder, and the bond between said strip and core wire is effected by subsequently cooling the assembly below the melting point of the solder.